

IN THE CLAIMS:

1.-4. (Cancel without prejudice or disclaimer of any scope or subject matter)

5. (New) An apparatus for separating semiconductor chips, comprising:
a stocker for setting a wafer of which one surface is stuck to an adhesive sheet and which is diced into units of semiconductor chips;
a carrying unit for carrying said wafer set by said stocker;
a sucking mechanics for sucking other surface of said wafer carried and disposed by said carrying unit;
a guide unit for disposing a guide of which tip is formed like a wedge on said one surface of said wafer sucked by said sucking mechanism; and
a chucking unit for holding one end of a sucking sheet adhered to said one surface of said wafer and making said sucking sheet cover said tip of said guide disposed for said wafer,
wherein said guide unit moves said guide along said sucking sheet in a direction opposite to said tip of said guide, and
said chucking unit peels off said sucking sheet from said one surface of said wafer by stretching one end of said sucking sheet so as to move said one end of said sucking sheet along said tip of said guide in synchronization with movement of said guide.

6. (New) An apparatus for separating semiconductor chips according to Claim 5, wherein said tip of said guide is formed like a wedge constituting 15

degrees in said tip, and said chucking unit bends said sucking sheet in conformity with said tip of said guide and stretches one end of said sucking sheet in a direction of about 15 degrees to a surface of said sucking sheet.

7. (New) An apparatus for separating semiconductor chips according to Claim 5, wherein said guide unit positions said guide to said wafer so that said tip of said guide faces a cut line of said wafer obliquely.

8. (New) An apparatus for separating semiconductor chips according to Claim 5, wherein said guide unit positions said guide to said wafer so as to dispose said tip of said guide by 45 degrees to a cut line of said wafer.

9. (New) An apparatus for separating semiconductor chips according to Claim 8, wherein said chucking unit holds one end of said sucking sheet disposed by 45 degrees to a cut line of said wafer, and stretches said one end in a direction of 45 degrees to said cut line of said wafer in conformity with said tip of said guide.

10. (New) An apparatus for separating semiconductor chips, comprising:
a stocker for setting a wafer of which one surface is stuck to an adhesive sheet and which is diced into units of semiconductor chips;
a carrying unit for carrying said wafer set by said stocker;
a first sucking mechanics for sucking other surface of said wafer carried and disposed by said carrying unit;

a guide unit for disposing a guide of which tip is formed like a wedge on said one surface of said wafer sucked by said first sucking mechanism; and

a chucking unit for holding one end of a sucking sheet adhered to said one surface of said wafer and making said sucking sheet cover said tip of said guide disposed for said wafer,

wherein said guide unit moves said guide along said sucking sheet in a direction opposite to said tip of said guide, and

said chucking unit peels off said sucking sheet from said one surface of said wafer by stretching one end of said sucking sheet so as to move said one end of said sucking sheet along said tip of said guide in synchronization with movement of said guide, and

said apparatus comprises a second sucking mechanism for sucking and picking up said semiconductor chips from said wafer sucked by said first sucking mechanism, and accommodating said semiconductor chips into said accommodation tray.

11. (New) An apparatus for separating semiconductor chips according to Claim 10, wherein said carrying unit sets said other surface of said wafer above and carries said wafer to dispose said wafer under said first sucking mechanism, and

said first sucking mechanism sucks said other surface of said wafer disposed under said first sucking mechanism by said first carrying unit, from above, and

said first sucking mechanism keeps to suck said wafer to invert said wafer after said sucking sheet is peeled off from said wafer, and

said second sucking mechanism picks up said semiconductor chips from above of said first sucking mechanism.

12. (New) An apparatus for separating semiconductor chips according to Claim 10, wherein said tip of said guide is formed like a wedge constituting 15 degrees in said tip, and

said chucking unit bends said sucking sheet in conformity with said tip of said guide and stretches one end of said sucking sheet in a direction of about 15 degrees to a surface of said sucking sheet.

13. (New) An apparatus for separating semiconductor chips according to Claim 10, wherein said guide unit positions said guide to said wafer so that said tip of said guide faces a cut line of said wafer obliquely.

14. (New) An apparatus for separating semiconductor chips according to Claim 10, wherein said guide unit positions said guide to said wafer so as to dispose said tip of said guide by 45 degrees to a cut line of said wafer.

15. (New) An apparatus for separating semiconductor chips according to Claim 14, wherein said chucking unit holds one end of said sucking sheet disposed by 45 degrees to a cut line of said wafer, and stretches said one end. in a direction of 45 degrees to said cut line of said wafer in conformity with said tip of said guide.

16. (New) An apparatus for separating semiconductor chips, comprising:

a stocker for setting a wafer of which mirror surface is stuck to an adhesive sheet and which is diced into units of semiconductor chips;

a carrying unit for carrying said wafer set with a device surface mounting a device above by said stocker;

a first sucking mechanism for sucking said device surface of said wafer disposed under said first sucking mechanism by said first carrying unit, from above, and

a guide unit for disposing a guide of which tip is formed like a wedge on said device surface of said wafer sucked by said first sucking mechanism; and

a chucking unit for holding one end of a sucking sheet adhered to said mirror surface of said wafer and making said sucking sheet cover in conformity with said tip of said guide disposed for said wafer, and

wherein said guide unit moves said guide along said sucking sheet in a direction opposite to said tip of said guide, and

said chucking unit peels off said sucking sheet from said one surface of said wafer by stretching one end of said sucking sheet so as to move said one end of said sucking sheet along said tip of said guide in synchronization with movement of said guide;

said first sucking mechanism keeps to suck said wafer to invert said wafer after said sucking sheet is peeled off from said wafer, and

said apparatus comprises a second sucking mechanism for sucking and picking up said semiconductor chips from a side of said mirror surface of said wafer sucked by said first sucking mechanism, and accommodating said semiconductor chips into said accommodation tray.